

UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF MICHIGAN
(SOUTHERN DIVISION)

IMRA AMERICA, INC., a Michigan corporation,

Plaintiff/Counterclaim Defendant,

v.

IPG PHOTONICS CORPORATION, a Delaware corporation,

Defendant/Counterclaim Plaintiff.

Case No.: 2:06-15139

Judge: Hon. Anna Diggs Taylor
Magistrate: Hon. Mona K. Majzoub

DEFENDANT IPG PHOTONICS CORPORATION'S RESPONSIVE CLAIM CONSTRUCTION BRIEF

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I. INTRODUCTION

IPG respectfully submits that the Court should adopt its proposed claim constructions in their entirety. All four terms are relevant to the central issues of infringement and validity, and there is an actual and substantial dispute between the parties as to what these terms mean.

As to the key claim term “mode converter,” the ‘630 patent does not describe or claim that this could be “any element” capable of matching the mode of the multimode fiber amplifier, as IMRA proposes in its construction. That is not what IMRA invented. It instead chose the specific term “mode converter” to describe its invention, and it defined that term in the specification. IPG’s proposed construction adopts that definition. IMRA cannot rewrite its claims now, twelve years after filing its patent application, in order to fit its infringement theory.

As to the remaining three claim terms, IMRA offers no construction whatsoever. The law is clear that where a term is in dispute, it must be construed. IMRA cannot avoid the consequences of the way it chose to draft its claims by asking the Court not to rule on these disputed issues of law. IPG’s constructions are supported by the record, will help the jury address the issues in this case, and are not genuinely and substantively disputed by IMRA. Those constructions should thus also be adopted.

II. ARGUMENT

A. “Mode Converter”

1. IPG’s Construction Adopts The Definition Set Forth In The ‘630 Patent.

There is no dispute that the term “mode converter” has no ordinary and customary meaning in the field of the ‘630 patent. Whereas IMRA contends that the other three terms in dispute must be given their “ordinary meaning,” it proposes a specific construction for “mode converter.” Given that the term has no ordinary and customary meaning, it must be construed in

accordance with the patent specification and, if relevant, the prosecution history. “Where a claim term has no ordinary and customary meaning, a court **must** resort to the remaining intrinsic evidence—the written description and the prosecution history—to obtain the meaning of that term.” *See, e.g., Goldenberg v. Cytogen, Inc.*, 373 F.3d 1158, 1164 (Fed. Cir. 2004) (emphasis added).

There is also no dispute that the key intrinsic evidence on this claim term is the following single sentence in column 10 of the ‘630 patent: “The mode-converter 50 can consist of any type of optical imaging system capable of matching the mode of the MM amplifier 52.” (Dkt. 80-3, ‘630 patent, 10:26-28; Dkt. 81, at 9.) IMRA also does not dispute that, during reexamination, it confirmed that the “mode converter” involves an optical imaging system. (Dkt. 80, at 12.)

There is also no dispute that the claimed “mode converter” must be “capable of matching the mode of the multimode fiber amplifier” referred to in the previous element of claim 1. (Dkt. 78-2, at 1-2.)¹

Finally, IMRA does not challenge IPG’s proposal that the construction of “mode converter” should include the exemplary language “such as a lens system, a section of tapered fiber, or a combination thereof,” which IPG proposes to include in order to assist the jury in understanding and applying this term.

Thus, the sole dispute on this term is whether the “mode converter” is an “optical imaging system,” as IPG contends, or merely any “element”—or even more broadly “anything,” as IMRA says in its brief. (Dkt. 81, at 9.)

IPG did not make up the phrase “optical imaging system.” That phrase is taken directly from the definition in the patent. Those are IMRA’s own words, carefully chosen by it when it

¹ IMRA’s construction uses the phrase “amplifier fiber” instead of “fiber amplifier.” The claim uses the latter term, and IMRA has not argued that the two are different.

prepared and filed its patent application to describe its invention to the world. Although IMRA disparages this aspect of IPG's construction as "narrow," and criticizes it as allegedly "exclud[ing] a preferred embodiment" (Dkt. 81, at 9, 11), IMRA does not back up those allegations. It defies logic for IMRA to contend that the phrase "optical imaging system" is unfairly or improperly "narrow," when those were the very words that IMRA itself used in its patent, in the very text of the patent that IMRA agrees the Court should consult to determine the meaning of the claimed "mode converter."

Nor does IMRA substantiate its vague assertion—made only in passing—that IPG's construction somehow "excludes a preferred embodiment." (Dkt. 81, at 9.) IPG's construction encompasses every single mode converter disclosed in the specification for use with IMRA's invention, and IMRA has not identified anything in the specification that would be "excluded."

In sum, IPG's construction uses the words used in IMRA's patent to define the "mode converter," and also fairly encompasses every embodiment of the claimed "mode converter" set forth in the specification. IPG's construction is thus fully warranted by the patent specification. "The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (*en banc*). Indeed, IMRA repeatedly concedes, as it must, that the specification is the best source for construing a claim term. (*See, e.g.*, Dkt. 81, at 2, 3, 4, 9, 10 and 11.)

IPG's construction is also supported by the dependent claims that further describe the "mode converter" of claim 1. The claim construction doctrine of "claim differentiation" provides that where a dependent claim expressly recites a feature, the independent claim from which that claim depends should not be construed to *require* that feature. *See, e.g., Curtiss-*

Wright Flow Control Corp. v. Velan, Inc., 438 F.3d 1374, 1380 (Fed. Cir. 2006) (“an independent claim should not be construed as requiring a limitation added by a dependent claim”). IPG’s proposed construction for “mode converter” does not require any of the features of the mode converter set out in the dependent claims of claim 1. To the contrary, those dependent claims further confirm that IPG’s construction is of a fair and proper scope, commensurate with the definition set forth in the specification.

Dependent claims 17 and 18 state that the mode converter comprises a “bulk-optics imaging system” and a “tapered single-mode fiber,” respectively. Of course, those specific optical imaging systems also have to perform the undisputed function of the mode converter, namely, each must be “capable of matching the mode of the multimode fiber amplifier.” Those two embodiments are specifically listed in the specification as examples of an “optical imaging system” (Dkt. 80-3, ‘630 patent, 10:28-32), and are also included in the non-limiting “such as” clause of IPG’s proposed construction as illustrative examples of a “mode converter.”

Claims 50 and 51 were added during reexamination, and recite that “the mode converter comprises an optical fiber spliced to an input of said multimode fiber.” (Ex. 8, ‘630 patent Reexamination Certificate, claims 50 and 51.) The term “comprises” in a patent claim is open-ended, meaning that the claim requires all the elements listed, and can also include additional, unnamed elements, and so these claims encompass, for example, tapered optical fiber mode converters. *Vehicular Technologies Corp. v. Titan Wheel Intern., Inc.*, 212 F.3d 1377, 1383 (Fed. Cir. 2000); *Gillette Co. v. Energizer Holdings Inc.*, 405 F.3d 1367, 1371-72 (Fed. Cir. 2005). When IMRA added these two claims during reexamination, it identified column 10, line 32, of the ‘630 patent as “support” for these claims.² (Ex. 9, Amendment dated June 1, 2009, at

² Claims added during reexamination cannot introduce new material not disclosed by the original application. 35 U.S.C. §§ 132, 305.

35.) That passage of the patent states that the mode converter can be a particular type of optical fiber, namely, a tapered optical fiber, such as claimed in dependent claim 18, provided of course it is “capable of matching the mode of the multimode fiber amplifier.” That same passage also states that that optical fiber mode converter can be spliced to the multimode fiber amplifier:

Alternatively, a section of tapered fiber may be employed, such that the output mode at the end of the tapered fiber is matched to the mode of the MM amplifier fiber 52. In this case, the mode-converter can be spliced directly to the MM fiber 52 producing a very compact set-up.

(Dkt. 80-3, ‘630 patent, 10:25-33.) This tapered-fiber mode converter is, as noted above, encompassed by IPG’s proposed construction.

Finally, the caselaw also supports IPG’s proposed construction. In *AquaTex Industries, Inc. v. Techniche Solutions*, 419 F.3d 1374 (Fed. Cir. 2005), the disputed term was “fiberfill batting material.” The Federal Circuit noted that when the term is technical, “the best source for understanding it is the specification from which it arose.” *Id.* at 1380. The defendant claimed that the term should be construed to encompass only synthetic fibers, since that was all that the patent disclosed as embodiments. The patentee, on the other hand, argued that the term should not be limited to synthetic fibers, relying on language in the specification that “any commercial fiberfill may be used as long as it does not adversely affect the performance of the end composite.” *Id.* at 1381. Despite this statement, the Federal Circuit held that the term covered only synthetic fibers: “[B]ased upon the teachings of the specification, one of ordinary skill in the textile manufacturing industry would understand that commercial ‘fiberfill batting material’ is made of synthetic or polyester fibers.” *Id.* at 1382.

In *Nystrom v. TREX Co., Inc.*, 424 F.3d 1136, 1142 (Fed. Cir. 2005), the disputed term was “board,” in the context of an invention for shaped flooring boards. The district court had construed the term to mean a “piece of elongated construction material made from wood cut

from a log.” *Id.* On appeal, the patentee argued that this construction improperly imported limitations from the specification into the claim, and was too narrow in that nothing in the specification limited the word “board” to conventional wood boards cut from a log. *Id.* The Federal Circuit affirmed the district court’s construction because “[t]he written description and prosecution history consistently use the term ‘board’ to refer to wood decking materials cut from a log.” *Id.* at 1145. The patentee’s construction would broaden the term to “encompass relatively obscure definitions that are not supported by the written description or prosecution history. Broadening of the ordinary meaning of a term in the absence of support in the intrinsic record indicating that such a broad meaning was intended violates the principles articulated in *Phillips*.” *Id.* at 1145-46.

In *On Demand Machine Corp. v. Ingram Industries, Inc.*, 442 F.3d 1331 (Fed. Cir. 2006), the invention related to a system and method for manufacturing a single book copy, and the disputed limitation was “customer.” *Id.* at 1339. The defendant argued that the patent consistently referred to the customer as “the retail consumer,” whereas the patentee argued that the specification did not narrow the ordinary meaning of the term as “one who buys goods or services,” and that the “invention is not limited to any specific kind of consumer.” *Id.* at 1340. The Federal Circuit adopted the defendant’s narrower construction because the “specification repeatedly reinforces its usage of the term ‘customer’ as the retail consumer” and “the claims cannot be of broader scope than the invention that is set forth in the specification.” *Id.*

In *Abraxis Bioscience, Inc. v. Mayne Pharma (USA) Inc.*, 467 F.3d 1370, 1376 (Fed. Cir. 2006), the parties disputed the limitation “edetate” in the context of claims covering an improved formulation used to induce and maintain general anesthesia and sedation in patients. The specification described “edetate” as “ethylenediaminetetraacetic acid (EDTA) and derivatives

thereof” and listed three examples, each of which was a salt of EDTA. *Id.* at 1376-77. The specification further noted that “[t]he nature of the edetate is not critical, provided that it fulfills the function of preventing significant growth of microorganisms for at least 24 hours in the event of adventitious extrinsic contamination.” *Id.* at 1378. Despite this statement, the Federal Circuit limited the construction to the family, or class, of compounds that those three examples belonged to, “the salts or anions of EDTA,” stating that “the inventors listed several derivatives of EDTA that are suitable for the invention. Notably, all of these derivatives are salts of EDTA, none are structural analogs.” *Id.* at 1377.

Honeywell Intern. Inc. v. Universal Avionics Systems Corp., 488 F.3d 982 (Fed. Cir. 2007), also supports IPG’s construction. There, the disputed term was “terrain floor boundary,” in the context of a patent to systems to warn pilots about approaching mountains or hillsides. *Id.* at 987, 990-91. The district court had construed the limitation to mean “a boundary that extends downwardly below the aircraft which is proportional to the distance to the closest runway,” which the patentee alleged contained a limitation imported from the specification. *Id.* at 991. The Federal Circuit affirmed, relying entirely on the evidence from the specification. *Id.* The Federal Circuit first observed that the term had no ordinary meaning to one of ordinary skill, and that “[w]ithout a customary meaning of a term within the art, the specification usually supplies the best context for deciphering claim meaning.” *Id.* (citing *Irdeto Access, Inc. v. Echostar Satellite Corp.*, 383 F.3d 1295, 1300 (Fed. Cir. 2004)). The specification contained a number of examples of the “terrain floor boundary,” each of which defined the term in relation to the distance proportional to the closest runway. *Id.* Because all of the examples contained this feature, it was properly included in the construction.

2. There Is No Support For IMRA’s Proposed “Element” Construction.

The ‘630 patent claims do not use the term “element” to describe the mode converter. They use the term “mode converter.” IMRA cannot rewrite the specific term “mode converter” as the generic term “element” under the guise of claim construction. *See Helmsderfer v. Bobrick Washroom Equipment, Inc.*, 527 F.3d 1379, 1383-84 (Fed. Cir. 2008).

The ‘630 patent also does not use the term “element” to describe the mode converter. In fact, the word “element,” standing alone, does not appear anywhere in the ‘630 patent. The only use of the term “element” in the ‘630 patent is an optional “linear or nonlinear optical element,” which is ***not*** a mode converter, and which is located at the output of the system, as opposed to the mandatory mode converter, which is located at the input of the multimode fiber amplifier. (Dkt. 80-3, ‘630 patent, 10:53-56, claim 42.) Thus, the ‘630 patent itself shows that there is a difference between a “mode converter” and an “element” or an “optical element.” IMRA called one piece of the apparatus, at the input to the multimode fiber amplifier, a “mode converter,” and made that piece mandatory. It called a different piece of the apparatus, at the output of the system, an “optical element,” and made that piece optional. Given that the specification and the claims clearly draw a distinction between a “mode converter” and an “element” or an “optical element,” it would be improper to equate them, as IMRA proposes. *Id.* at 1382 (“Our precedent instructs that different claim terms are presumed to have different meanings.”).

IMRA is also incorrect that its construction is in any way supported by Figures 5, 6, 11, and 12. According to IMRA, these figures each “portray a ‘mode converter’ using a generic box, conveying that any structure may be used.” (Dkt. 81, at 9.) This assertion is plainly contrary to the intrinsic record. The figures do not use a “generic box” to portray the mode converter. They use a box labeled with the numeral 50. That numeral 50 is then described in the patent specification, which defines the mode converter exactly as IPG proposes: “The mode-converter

50 can consist of any type of optical imaging system capable of matching the mode of the MM amplifier 52.” (Dkt. 80-3, ‘630 patent, 10:26-28.) Thus, this road, like all others in the patent, leads directly back to IPG’s proposed construction for the term.

As to the above-quoted passage, IMRA grasps at the phrase “can consist,” as though this somehow suggests that the “mode converter” is broader than what IPG proposes. However, IMRA does not identify anything in the specification that would even hint at what such alleged broader construction should be, or what it should encompass. Moreover, IMRA is simply picking-and-choosing from the specification when it makes this argument. After all, it too embraces this exact same passage as the support for its proposed construction. In doing so, it selectively picks the second clause of the definition after the words “can consist” (“capable of matching the mode of the MM amplifier”), and rejects without any basis the first clause (“optical imaging system”) and then rewrites it as “element.”

The mode-converter 50 can consist of [1] optical imaging system [2] capable of matching the mode of the MM amplifier 52

Thus, IMRA by its own actions concedes that the language after “can consist” is definitional, not merely illustrative.

IMRA’s repeated argument that “no particular structure is required for the recited ‘mode converter’” ignores both the “mode converter” claim language that it chose, as well as the law that IMRA itself relies upon. (Dkt. 81, at 9.) “The descriptive part of the specification aids in ascertaining the meaning of the claims *inasmuch as the words of the claims must be based on the description.* The specification is, thus, the primary basis for construing the claims.” *Phillips*, 415 F.3d at 1315 (emphasis added) (quoting *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 452 (Fed. Cir. 1985)). Nothing in the ‘630 patent says that the “mode converter” can be “any element.”

IMRA also concedes that “the intrinsic evidence is clear and nothing further is needed on the construction of ‘mode converter.’” (Dkt. 81, at 10.) It is thus improper for IMRA to attempt to rely on extrinsic evidence for this term, in the form of the paid testimony of its expert, Dr. Knox. Extrinsic evidence “may not be used to vary, contradict, expand, or limit the claim language from how it is defined, even by implication, in the specification or file history.” *Bell Atlantic Network Services, Inc. v. Covad Commun. Group, Inc.*, 262 F.3d 1258, 1266 (Fed. Cir. 2001).

Moreover, Dr. Knox’s statements are merely conclusory *ipse dixit*, and have no evidentiary value. *See, e.g., Phillips*, 415 F.3d at 1318 (“[C]onclusory, unsupported assertions by experts as to the definition of a claim term are not useful to a court”); *Brainard v. American Skandia Life Assur. Corp.*, 432 F.3d 655, 664 (6th Cir. 2005) (holding that the district court “acted well within its discretion by discarding” an expert’s affidavit because it lacked any “meaningful analysis or reasoning”). Dr. Knox’s entire explanation of why it would allegedly be inappropriate to define the “mode converter” as “any optical imaging system” is set out in the following three sentences, the first and third of which are wholly conclusory and redundant, and the second of which merely recites IPG’s proposed construction:

IPG’s proposed construction is narrower than the definition of a person of ordinary skill in the art would have given that term at the time the patent application was filed in June 1997. IPG’s construction, for example, requires a “mode converter” to be ”an optical imaging system.” A person of ordinary skill in the art reading the ‘630 patent at that time it was filed would not interpret “mode converter” that narrowly.

(Dkt. 81-5, at 3-4.)

His entire explanation of why his client IMRA’s “any element” construction is correct is set out in the following two sentences, also wholly conclusory:

This proposed construction is consistent with how a person of ordinary skill in the art, having read the patent, would have interpreted that term in Claim 1 at the time the patent

application was filed in June 1997. It is readily apparent to a person of ordinary skill in the art that the ‘630 patent describes the recited mode converter broadly as any element that is capable of matching the mode of a multi-mode amplifier fiber.

(*Id.* at 3.)

These statements provide no explanation, insight, or rationale. Rather than point to any *evidence* of how the term was understood at the relevant time to a person of ordinary skill, Dr. Knox points right back to the patent itself: “See, for example, Figure 5 and the associated discussion at column 10.” *Id.* This is the very intrinsic evidence that Dr. Knox cannot “vary, contradict, expand, or limit” *See Bell Atlantic*, 262 F.3d at 1266. Dr. Knox’s opinions are of no weight on this issue, and should be disregarded.

3. IMRA’s Proposed Construction Is Improperly Functional.

IMRA is attempting to construe “mode converter” as a purely functional limitation, *i.e.*, any structure that performs the function: “Simply put, a mode converter is anything—*i.e.* an ‘element’—that accomplishes the matching of the mode of the nearly diffraction limited input beam with the fundamental mode of the multi-mode fiber amplifier.” (Dkt. 81, at 9-10.) Apart from the claim construction issues discussed above, IMRA’s construction is legal error. Purely functional limitations are impermissible, and thus invalid, except to the extent permitted under 35 U.S.C. § 112, ¶ 6, which requires that they be construed to cover only the corresponding structures disclosed in the patent specification and equivalents thereof. *See, e.g., Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371, 1383 (Fed. Cir. 2009).

In *Halliburton Oil Well Cementing Co. v. Walker*, 329 U.S. 1 (1946), the patentee invented a new apparatus to measure the location of obstructions in deep wells, such as oil wells. *Id.* at 3-7. He claimed his invention using apparatus claims, but, just as IMRA proposes with its construction of “mode converter,” used “conveniently functional language at the exact point of

novelty.” *Id.* at 8. The Supreme Court held that such purely functional limitations were invalid because, if allowed, they would permit the patentee to capture any devices that performed the claimed function, regardless of whether the patentee disclosed, invented, or claimed those particular devices. The “broadness, ambiguity, and overhanging threat of the functional claim” would “bar[] anyone from using in an oil well any device heretofore or hereafter invented which ... performs the function of clearly and distinctly catching and recording echoes from tubing joints with regularity. Just how many different devices there are of various kinds and characters which would serve to emphasize these echoes, we do not know.” *Id.* at 12. Such overbroad terms would also discourage, rather than encourage, innovation: “And unless frightened from the course of experimentation by broad functional claims like these, inventive genius may evolve many more devices to accomplish the same purpose.” *Id.*

In response to *Halliburton*, Congress enacted paragraph six (originally paragraph 3) of § 112. *Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1582 (Fed. Cir. 1996). “In place of the *Halliburton* rule, Congress adopted a compromise solution, one that had support in the pre-*Halliburton* case law: Congress permitted the use of purely functional language in claims, but it limited the breadth of such claim language by restricting its scope to the structure disclosed in the specification and equivalents thereof.” *Id.* (citations omitted).

In short, there are two consequences of IMRA’s proposed construction for “mode converter.” Either the claims are all invalid as including an improperly functional limitation, or the term must be limited in accordance with 35 U.S.C. § 112, ¶ 6. Specifically, the term would be limited to the specific embodiments disclosed in the specification for performing the function of the mode converter in claim 1, *i.e.*, “receiving the input beam and converting the mode of the input beam to match a fundamental mode of the multi-mode fiber amplifier, and providing a

mode-converted input beam to said multi-mode fiber amplifier.” The specification discloses only two structures that are capable of performing this claimed function: a tapered fiber and a bulk optics system. (Dkt. 80-3, ‘630 patent, at 10:26-34.)

To avoid the application of 35 U.S.C. § 112, ¶ 6, the claim must recite some structure capable of performing the function of the “mode converter.” *See, e.g., Massachusetts Institute of Technology and Electronics For Imaging, Inc. v. Abacus Software*, 462 F.3d 1344, 1353-54 (Fed. Cir. 2006). IPG’s proposed construction includes such structure, an “optical imaging system.” IMRA’s proposed construction does not. The term “‘element’ … typically do[e]s not connote sufficiently definite structure.” *Id.* at 1354 (citing *In Personalized Media Commc’ns, LLC v. Int’l Trade Com’n*, 161 F.3d 696, 704 (Fed. Cir. 1998)). Thus, adopting IMRA’s construction would require either invalidating the claims, or limiting the mode converter to bulk optics or tapered fibers “capable of matching the mode of the MM amplifier.”

B. The Other Limitations in Dispute Must Also Be Construed.

In *Markman v. Westview Instruments, Inc.*, the Supreme Court held that “the construction of a patent, including terms of art within its claim, is exclusively within the province of the court.” 517 U.S. at 372. Accepting IMRA’s arguments that three of the disputed terms should be given their “ordinary meaning,” *i.e.*, that they should not be construed, runs directly contrary to that holding because it would shift claim construction to the jury. These three terms would be presented to the jury, undefined, and the parties would be left to argue their proposed constructions at trial, which would be legal error. *Every Penny Counts, Inc. v. American Express Co.*, 563 F.3d 1378, 1382 (Fed. Cir. 2009) (“the court’s obligation is to ensure that questions of the scope of the patent claims are not left to the jury.”). “When the parties raise an actual dispute regarding the proper scope of [the] claims, the court, not the jury, must resolve that dispute.” O2

Micro Intern. Ltd. v. Beyond Innovation Technology Co., Ltd., 521 F.3d 1351, 1360 (Fed. Cir. 2008).

IPG agrees with IMRA that “[t]he only terms that need to be construed are those ‘that are in controversy, and only to the extent necessary to resolve the controversy.’” (Dkt. No. 81, at 1 (citing *Vivid Techs., Inc. v. Am. Sci. Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))). Although the parties have substantially reduced the number of terms for the Court to construe, they have been unable to reach agreement on four terms, each of which bears directly on the central issues of infringement and validity. IPG has presented constructions for each of these terms, supported by the relevant intrinsic and extrinsic evidence. IMRA, on the other hand, argues that three of the terms should not be construed because they are not in “controversy” and have meanings understood to persons of ordinary skill in the art. (Dkt 81, at 1-2.) If there truly is no “controversy” here for the Court to resolve, then IMRA should simply accept IPG’s constructions for these three terms. If IMRA disagrees with IPG’s constructions, it was obligated to present its own constructions setting forth what the alleged “readily understood” meanings of these terms are, and explain how they differ from the constructions proposed by IPG.

IMRA does not suggest that the disputed terms are incapable of definition, or that the scope of the claims cannot be determined from the intrinsic and extrinsic evidence. To the contrary, by suggesting that the terms be given their “ordinary meaning,” IMRA acknowledges that they have some known meaning, but that their scope should nonetheless be left undefined.

The danger of adopting IMRA’s “no construction” positions is that IMRA’s experts and the named inventors, IMRA employees, would be allowed to freely opine on the scope of the asserted claims at trial. “The risk of confusing the jury is high when experts opine on claim

construction.” *CytoLogix Corp. v. Ventana Medical Systems, Inc.*, 424 F.3d 1168, 1172 (Fed. Cir. 2005); *see also Phillips*, 415 F.3d at 1318 (“conclusory, unsupported assertions by experts as to the definition of a claim term are not useful”). Inventor testimony as to claim scope would be particularly misleading, since “[t]he subjective intent of the inventor when he used a particular term is of little or no probative weight in determining the scope of a claim.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 985 (Fed. Cir. 1995) (*en banc*), *aff’d* 517 U.S. 370 (1996); *Howmedica Osteonics Corp. v. Wright Medical Technology, Inc.*, 540 F.3d 1337, 1347 (Fed. Cir. 2008) (“inventor testimony as to the inventor’s subjective intent is irrelevant to the issue of claim construction.”). Likewise, issues such as validity, infringement and damages would be left dependent on the jury’s construction, and then application, of these key terms. The jury’s constructions would be unreviewable. Moreover, the materials prepared for and presented at trial would have to account for any number of potential constructions by the jury, unduly complicating the proceedings, and increasing expense.

The Federal Circuit addressed this very situation in *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351 (Fed. Cir. 2008). In *O2 Micro*, the parties disputed the construction of the term “only if.” The patentee contended that the term needed no construction—that it should be given its ordinary meaning—because it had a well-understood meaning to lay persons. *Id.* at 1357. The alleged infringer contended that the intrinsic evidence required a specific construction, and requested that the Court identify the scope of the term. *Id.* Each party “provid[ed] an argument identifying the alleged circumstances when the requirement specified by the claim term must be satisfied.” *Id.* at 1361. However, instead of resolving the parties’ dispute by issuing a construction, the district court held that the term “only if” needed no construction because it “has a well-understood definition, capable of application by both the jury

and [the Court] in considering the evidence submitted in support of an infringement or invalidity case.” *Id.* The Federal Circuit vacated and remanded, noting that:

In deciding that “only if” needs no construction” because the term has a “well-understood definition,” the district court failed to resolve the parties’ dispute because the parties disputed not the meaning of the words themselves, but the scope that should be encompassed by this claim language.

A determination that a claim term “needs no construction” or has the “plain and ordinary meaning” may be inadequate when a term has more than one “ordinary” meaning or when reliance on a term’s “ordinary” meaning does not resolve the parties’ dispute.

Id. Thus, the Court and the parties were required to retry the entire case because the single term “only if” was not construed, and was left to its “ordinary meaning.” *Id.* at 1366.

IMRA’s proposed “ordinary meaning” constructions suffer from the same defects as in *O2 Micro*. “[T]he ‘ordinary’ meaning of a term does not resolve the parties’ dispute, and claim construction requires the court to determine what claim scope is appropriate in the context of the patents-in-suit.” *Id.* “Claim construction is a matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use in the determination of infringement.” *Id.* at 1362 (quoting *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997)).

IPG’s proposed constructions fairly and properly reflect the metes and bounds of these disputed claim terms. Since IMRA, despite an extensive meet-and-confer process and its insistence that it would dispute IPG’s constructions, refused to offer any constructions for these terms, IPG submits that the Court should adopt its constructions.

1. “Converting the Mode of the Input Beam to Match a Fundamental Mode of the Multi-Mode Fiber Amplifier”

IPG’s proposed construction accurately captures the meaning of the disputed limitation, and makes clear that the purpose of the conversion in the mode converter is to cause the mode of

the input beam to match a fundamental mode of the multi-mode fiber amplifier. (Dkt. 80, at 16-17.) This construction is especially warranted given IMRA’s statements during reexamination distinguishing Yang. (*See id.*)

IMRA does not offer its own construction for this term. Nor does it dispute the substance of IPG’s proposed construction. IMRA instead makes a sweeping cite to 81 lines from the specification, eight figures in the patent, and its expert’s declaration, and then makes the conclusory assertion that the construction proposed by IPG is “unnecessary and unwarranted and changes the meaning of the claim term from its plain and ordinary meaning.” (Dkt. 81, at 13, 15.) If IPG’s construction truly were “unnecessary,” then IMRA should explain why, or should simply accept it as substantively correct, rather than burden the Court with this issue. If IPG’s construction truly were “unwarranted” or “changes the meaning of the claim,” then it is incumbent upon IMRA to identify its substantive disputes with IPG’s proposed construction. IMRA has done none of these things.

IMRA instead contends that IPG’s construction is improper because the word “cause” is not in the specification. This is form, not substance. IPG’s proposed construction is fully in accord with the legal authority cited by IMRA, which states that “[w]here construction is necessary, ‘[t]he construction of the claims is simply a way of elaborating the normally terse claim language in order to understand and explain, but not to change, the scope of the claims.’” (Dkt. 81, at 15; quoting *Gart v. Logitech, Inc.*, 254 F.3d 1334, 1339 (Fed. Cir. 2001).) IPG’s proposed construction properly clarifies that the conversion accomplished by the mode converter is done to cause the input beam to match a fundamental mode of the multi-mode fiber amplifier. IMRA provides no arguments or evidence refuting this construction.

2. “A Mode-Converted Input Beam”

IPG's construction of this limitation fully reflects the context in which the term is used in claim 1. (Dkt. 80, at 17.) It is also supported by the patent specification and IMRA's own expert. (*Id.* at 17-18.) It is necessary because it clearly and concisely recites for the jury what it means for the beam to have been "mode-converted," *i.e.*, its mode "has been converted to match the fundamental mode of the multi-mode fiber amplifier."

As with the claim limitation discussed in the preceding section, IMRA does not substantively disagree with IPG's construction, or offer its own competing construction. IMRA instead asserts that IPG's construction is "at best ... redundant and unnecessary" or "at worst ... changes the meaning of the claim term from its plain and ordinary meaning and adds unwarranted limitations." (Dkt. No. 81, p. 16.) This is rhetoric, not substance. It is also inconsistent. If IPG's construction were "redundant and unnecessary," then IMRA would have to agree that that construction is accurate in substance. If on the other hand IMRA really believed that IPG's construction "changes the meaning of the claim term," then it must identify any and all "unwarranted limitations" that it contends IPG's construction adds to the term. That it does none of these things further demonstrates that IPG's construction is true to the intrinsic record, and fairly, clearly, and accurately captures the meaning of the term, and thus should be adopted.

3. "An Amplified Beam Substantially In the Fundamental Mode"

The issue on this claim term is what it means for a light beam to be substantially "in" the fundamental mode.³ IPG's construction clearly and accurately answers that question: it means that substantially all of the energy content of the beam must be in the fundamental mode. That is

³ The beam of light that must be "substantially in the fundamental mode" is the beam that exits the multimode fiber amplifier. IMRA's figure on page 7 of its brief is thus incorrect. First, this figure is not Figure 1 of the patent, as IMRA represents. The labels have been applied by IMRA or its counsel for purposes of the brief, and the label "amplified beam output substantially in the fundamental mode" is in the wrong place. It should be at the output of the component labeled "multi-mode (MM) fiber amplifier."

what the patent teaches. (Dkt. 80-3, ‘630 patent, 10:1-18.) Rather than address the issue, or explain any different view or provide a competing construction, IMRA dodges the issue entirely. IMRA’s first strategy in avoiding this issue is to recast IPG’s proposed construction, asserting that “IPG’s construction changes ‘substantially’ to ‘substantially *all*.’” (Dkt. 81, at 17). This is misleadingly incomplete. IPG construes “substantially in the fundamental mode” to mean “substantially all of its *energy content* in the fundamental mode.” The specification makes clear that the metric for assessing this issue is energy content (or equivalently, in this regard, power or intensity). (See Dkt. 80, at 19-20.) Therefore, the only way to determine whether “substantially all” of the beam is in the fundamental mode is whether “substantially all” of the beam’s energy content is in the fundamental mode. (Dkt. 80-3, ‘630 patent, at Abstract, 10:1-18 and figs. 3 and 4.) “When a word of degree is used the patent’s specification must provide some standard for measuring that degree.” *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1372 (Fed. Cir. 2008).

IMRA’s second strategy is to object that IPG is attempting “to place [] restrictions on the term ‘substantially.’” (Dkt. 81, at 18.) Not so. IPG’s construction includes the word “substantially.” IPG is not trying to restrict that word at all.⁴ IPG is simply attempting to clarify what the term “substantially” applies to, and the specification makes clear that what is important to this invention is that substantially all of the energy content of the beam exiting the multimode fiber amplifier is in the fundamental mode.

Finally, IMRA asserts that IPG’s proposed construction is “inconsistent” with dependent claims 46-48, which recite various values of something called “M². ” (Dkt. 81, at 17.) IMRA does not explain how this mathematical issue is in any way relevant to the claim construction

⁴ The term “substantially” is “a term of degree” and “should not be interpreted as having a strict numerical limitation.” *Playtex Products, Inc. v. Procter & Gamble Co.*, 400 F.3d 901, 904-05, 907 (Fed. Cir. 2005) (quoting *Verve, LLC v. Crane Cams, Inc.*, 311 F.3d 1116, 1120 (Fed. Cir. 2002)).

issue before the Court. IMRA also fails to note that its own expert—the same Dr. Knox whom it relies upon for other aspects of its claim construction—has concluded that “the M^2 factor is not a proper way, and certainly not the best way, to assess the substantiality of the fundamental mode in an amplified beam, the very characteristic to which the claim limitation is directed.” (Ex. 10, Knox Rebuttal Invalidity Report, at ¶ 103.)⁵

In short, this too is a red herring to obscure the fact that IMRA does not, and cannot, disagree that whether a beam is “in” the fundamental mode depends on whether substantially all of the energy content of the beam is in the fundamental mode. (Dkt. 80, at 18.)

III. CONCLUSION

For the foregoing reasons and those identified in its opening brief, IPG respectfully requests that the Court adopt its proposed constructions of the disputed terms.

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⁵ Paragraph 6 of Dr. Bucksbaum’s report concludes that, for a beam to be “substantially in the fundamental mode,” it must have “an M^2 value of less than 1.2.” (Dkt. 81-6, ¶ 6). Given this, Dr. Bucksbaum concludes that dependent claims 46, 47, and 48, which recite M^2 values of less than 10, 4 and 2, respectively, are invalid because they do not narrow the scope of independent claim 1. *See* 37 CFR § 1.75. IMRA’s attorney argument that this is a “concession” that the “substantially in the fundamental mode” limitation covers all beams with an M^2 value less than 10 is thus not only wrong and unsupported, but also the opposite of what Dr. Bucksbaum in fact says.

CERTIFICATE OF SERVICE

I hereby certify that on December 23, 2009, I electronically filed the foregoing paper with the Clerk of the Court using the ECF system which will send notification of such filing to the following:

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